

The Fishing Management Fee Register and the Population Register as sampling frames in Finnish recreational fishing surveys

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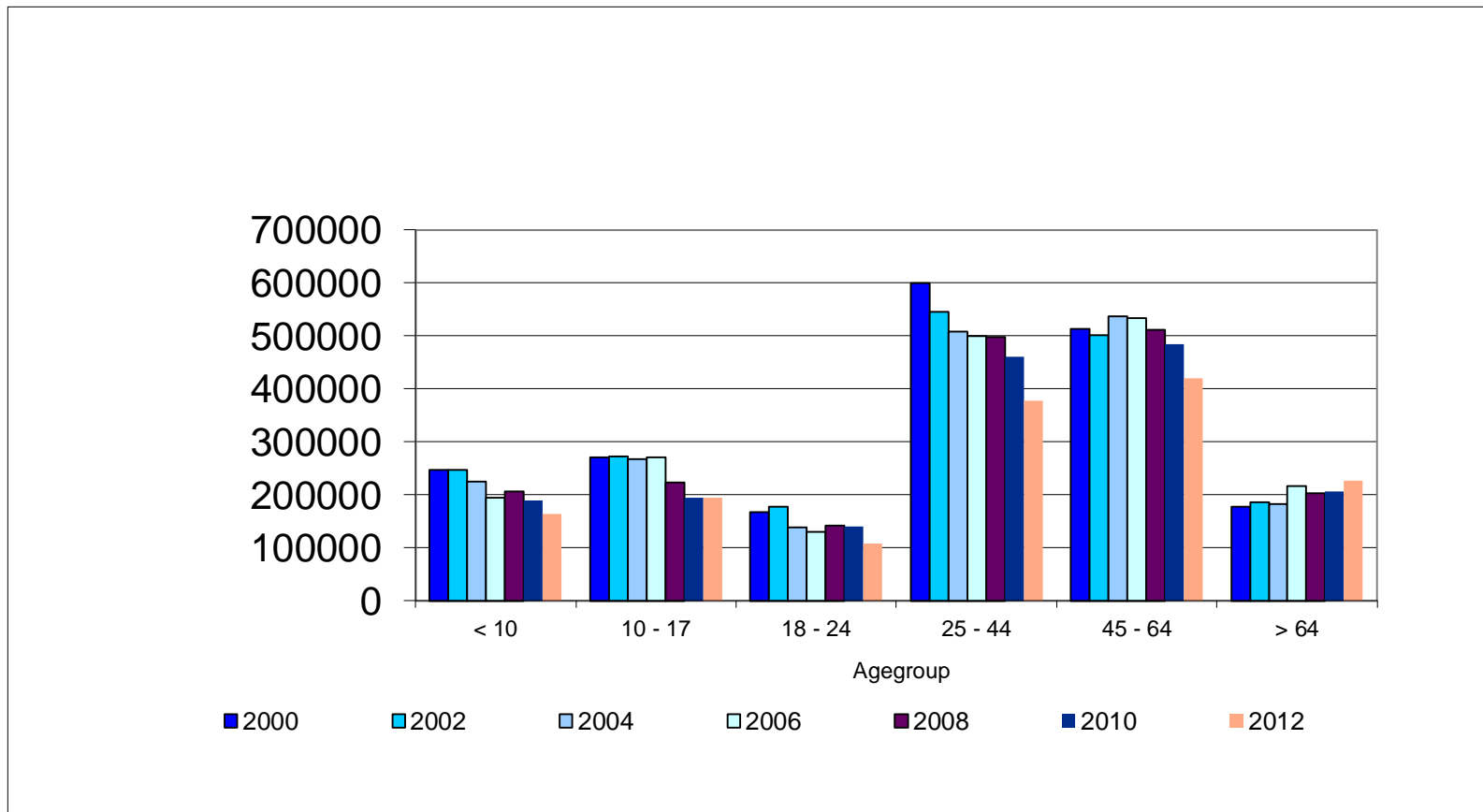
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Recreational fishing in 2012

- In 2012, there were about 1.5 (± 0.09) million recreational fishermen in about 850,000 household-dwellings in Finland.
- The proportion of recreational fishermen of the total Finnish population was 28 (± 2) per cent.
- The total catch amounted to 24.5 (± 2) million kg, of which 76 per cent was taken in inland waters.
- Perch and pike made up over half of the catch.

Recreational fishermen by agegroup 2000-2012



Data collection

- The data on recreational fishing is collected by a postal survey every second year using a sample drawn from the population register maintained by the Finnish Population Register Centre.
- The sampling design is stratified sampling and statistical unit is the household-dwelling.
- In the questionnaire the focus of the questions is on the age and gender of the persons participating in fishing, fishing activity by fishing area, and catch sizes by species. It is possible to answer also in internet.
- For those who don't respond to the postal questionnaire, post-sampling is conducted as a telephone interview.

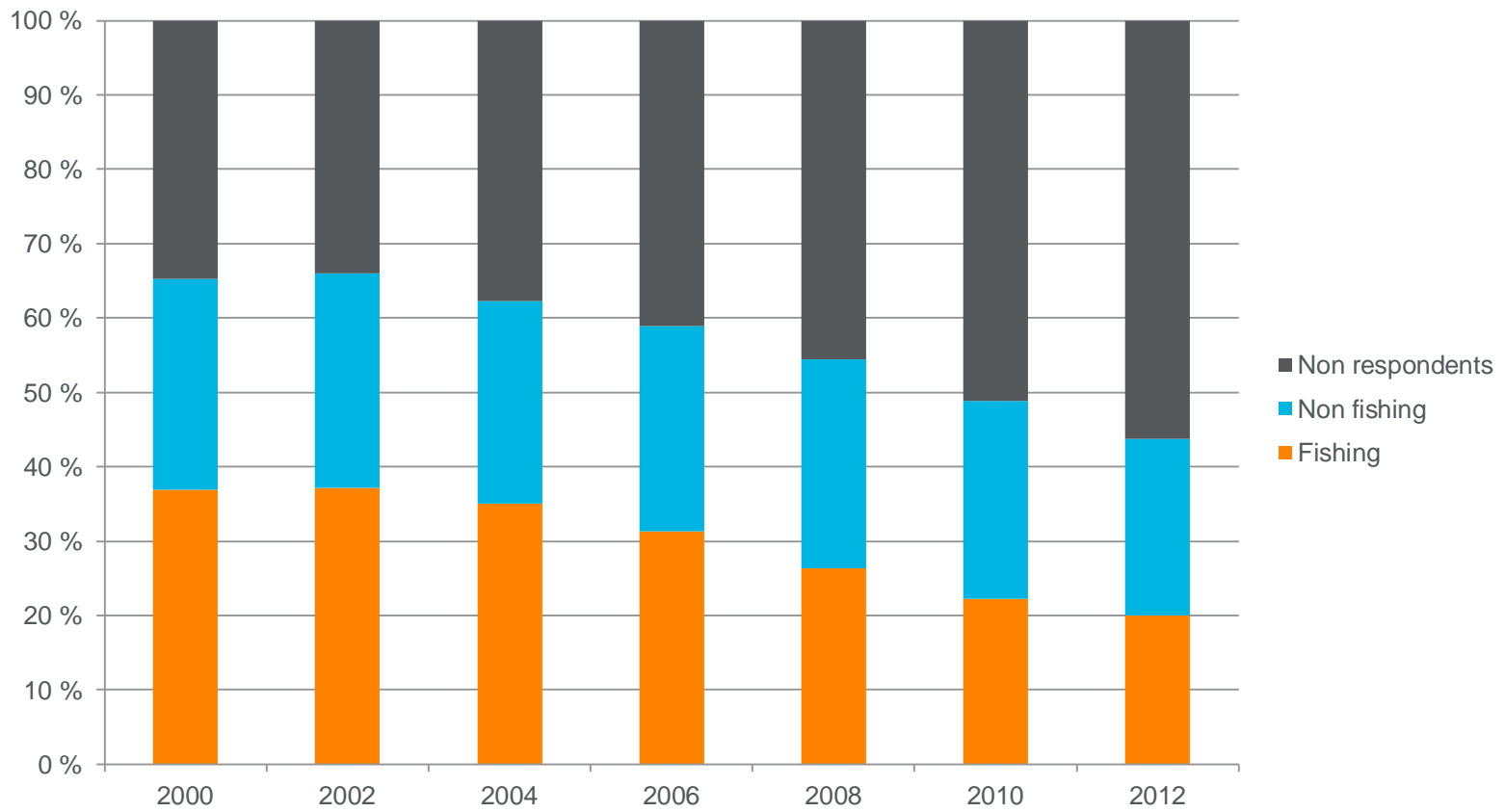
The non-response analysis

- The selective response has been evident when the data for recreational fishing statistics has been collected.
- For the analysis postal inquiry data and post-sampling data were combined and relative weights were constructed for each statistical unit, or household.
- The weighting factor was formed from the inverses of the inclusion probability and response probability of the sampling unit, that is, household-dwelling unit.

Estimation and non-response adjustment

- The analysis of combined postal survey data and post-sampling data showed that among non-respondents there are less fishing households than among respondents. So, if any non-response adjustment is done, the number of fishing households is overestimated.
- We can estimate the number of fishing households using combined data, but most of data is available only from postal survey. Our solution is to use the homogeneous response group model and calibration.
- The households in a given group are assumed to respond independently and with the same probability. In the calibration, the distributions to be calculated from the sample can be made to correspond to some marginal distributions.

Increasing nonresponse



Sampling design in 2014

- With certain angling exceptions, fishing in Finland requires a payment of the fishing management fee.
- When planning recreational fishing survey 2014, we were able to merge the fishing management fee register to the population register.
- In the sampling design household-dwellings, included into the fishing management fee register, formed one stratum.
- From the survey data it is possible to study by strata the structure of the household-dwellings, using of different gear types, the catch estimates etc.
- The response rate in the register stratum was much higher than in the other strata, but the analysis of the data is in the beginning.

Future

- The new fishing law has been accepted in the Parliament.
- In the new law it is important that paying the new fishing management fee is easier than nowadays, because one needs only one license for the whole country.
- To the register will be saved also the birthday of the fee owner. It means that linking to the population register is easier.
- In the old register there are under 200,000 people, but we have estimated that in the new register there could be 500,000 – 600,000 fishermen.
- Hope the estimates will be more precise.

Thank you!